

Application of Brian W. Ward et al.  
Serial No.: 09/610,935  
Filed: July 6, 2000  
Confirmation No. 5148  
Art Unit: 1634  
For: TARGET REAGENTS THAT ENHANCE  
REACTION-PRODUCT ANALYSIS  
Examiner: Bradley L. Sisson  
Attorney Docket: SGM 6934.1

## MARKED-UP VERSION OF THE AMENDMENTS TO THE CLAIMS

This listing of claims contains claims we propose to add, cancel, or amend relative to the claims appearing in applicants' Amendment D submitted May 24, 2004.

21. Canceled.

22. Canceled.

60. (currently amended) An aqueous reagent for use in forming a polymerase reaction mixture comprising a thermostable DNA polymerase, a nucleic acid polymer template, a primer, nucleotides, a detectible anionic tracer dye unbound to primer or nucleotides, and a solute to increase the physical density of the reagent, the reagent comprising the thermostable DNA polymerase, the detectible anionic tracer dye, and the solute, the reagent but being substantially free of the primer and the nucleic acid polymer template, the reagent and having an optical density of about 5 to about 500 at a visible wavelength of maximal tracer absorbance and a physical density of at least about 1.01 gm/cm<sup>3</sup>, but less than the density of the solute.

66. (new) An aqueous reagent for use in forming a polymerase reaction mixture comprising a thermostable DNA polymerase, a nucleic acid polymer template, a primer, nucleotides, a detectible anionic tracer dye unbound to primer or nucleotides, and a solute to increase the physical density of the reagent, the reagent comprising the thermostable DNA polymerase, the detectible anionic tracer dye wherein the tracer dye comprises acid violet 5 and acid red 1, and the solute, the reagent being free of the primer and the nucleic acid polymer template, and having an optical density of about 5 to about 500 at a visible wavelength of maximal tracer absorbance and a physical density of at least about 1.01 gm/cm<sup>3</sup>, but less than the density of the solute.

67. (new) The reagent of claim 66 wherein the thermostable DNA polymerase is Taq polymerase.

68. (new) The reagent of claim 66 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is 0.033 to 10 units/ $\mu$ l.

69. (new) The reagent of claim 66 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is 0.06 to 5 units/ $\mu$ l.

70. (new) The reagent of claim 66 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is about 1 unit/ $\mu$ l.

71. (new) The reagent of claim 67, wherein the solute is sugar, trimethylglycine, or glycerol.

72. (new) The reagent of claim 67, wherein the solute is glycerol.

73. (new) An aqueous reagent for use in forming a polymerase reaction mixture comprising a thermostable DNA polymerase, a nucleic acid polymer template, a primer, nucleotides, a detectible anionic tracer dye unbound to primer or nucleotides, and a solute to increase the physical density of the reagent, the reagent comprising Taq polymerase, the detectible anionic tracer dye consisting of 20% acid violet 5 and 80% acid red 1, and the solute, the reagent being free of the primer and the nucleic acid polymer template, and having an optical density of about 200 to about 400 at a visible wavelength of maximal tracer absorbance and a physical density of at least about 1.01 gm/cm<sup>3</sup>, but less than the density of the solute.

74. (new) The reagent of claim 73 wherein the thermostable DNA polymerase is Taq polymerase.

75. (new) The reagent of claim 73 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is 0.033 to 10 units/ $\mu$ l.

76. (new) The reagent of claim 73 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is 0.06 to 5 units/ $\mu$ l.

77. (new) The reagent of claim 73 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is about 1 unit/ $\mu$ l.

78. (new) The reagent of claim 74, wherein the solute is sugar, trimethylglycine, or glycerol.

79. (new) The reagent of claim 74, wherein the solute is glycerol.

80. (new) The reagent of 42 wherein the reagent has a peak visible absorbance wavelength at between 500 and 535.

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81. (new) The reagent of 80 wherein the reagent has a density of about 1.14 g/cm<sup>3</sup>.

82. (new) The reagent of 81 wherein the solute comprises glycerol, trimethylglycine or a sugar.

83. (new) The reagent of 82 wherein the solute comprises glycerol.

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## **CLEAN VERSION OF THE AMENDMENTS TO THE CLAIMS**

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21. Canceled.

22. Canceled.

60. An aqueous reagent for use in forming a polymerase reaction mixture comprising a thermostable DNA polymerase, a nucleic acid polymer template, a primer, nucleotides, a detectible anionic tracer dye unbound to primer or nucleotides, and a solute to increase the physical density of the reagent, the reagent comprising the thermostable DNA polymerase, the detectible anionic tracer dye, and the solute, the reagent but being substantially free of the primer and the nucleic acid polymer template, the reagent and having an optical density of about 5 to about 500 at a visible wavelength of maximal tracer absorbance and a physical density of at least about 1.01 gm/cm<sup>3</sup>, but less than the density of the solute.

66. An aqueous reagent for use in forming a polymerase reaction mixture comprising a thermostable DNA polymerase, a nucleic acid polymer template, a primer, nucleotides, a detectible anionic tracer dye unbound to primer or nucleotides, and a solute to increase the physical density of the reagent, the reagent comprising the thermostable DNA polymerase, the detectible anionic tracer dye wherein the tracer dye comprises acid violet 5 and acid red 1, and the solute, the reagent being free of the primer and the nucleic acid polymer template, and having an optical density of about 5 to about 500 at a visible wavelength of maximal tracer absorbance and a physical density of at least about 1.01 gm/cm<sup>3</sup>, but less than the density of the solute.

67. The reagent of claim 66 wherein the thermostable DNA polymerase is Taq polymerase.

68. The reagent of claim 66 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is 0.033 to 10 units/μl.

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70. The reagent of claim 66 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is about 1 unit/ $\mu$ l.

71. The reagent of claim 67, wherein the solute is sugar, trimethylglycine, or glycerol.

72. The reagent of claim 67, wherein the solute is glycerol.

73. An aqueous reagent for use in forming a polymerase reaction mixture comprising a thermostable DNA polymerase, a nucleic acid polymer template, a primer, nucleotides, a detectible anionic tracer dye unbound to primer or nucleotides, and a solute to increase the physical density of the reagent, the reagent comprising Taq polymerase, the detectible anionic tracer dye consisting of 20% acid violet 5 and 80% acid red 1, and the solute, the reagent being free of the primer and the nucleic acid polymer template, and having an optical density of about 200 to about 400 at a visible wavelength of maximal tracer absorbance and a physical density of at least about 1.01 gm/cm<sup>3</sup>, but less than the density of the solute.

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78. The reagent of claim 74, wherein the solute is sugar, trimethylglycine, or glycerol.

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80. The reagent of 42 wherein the reagent has a peak visible absorbance wavelength at between 500 and 535.

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81. The reagent of 80 wherein the reagent has a density of about  $1.14 \text{ g/cm}^3$ .
82. The reagent of 81 wherein the solute comprises glycerol, trimethylglycine or a sugar.
83. The reagent of 82 wherein the solute comprises glycerol.